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**(19) (CA) APPLICATION FOR CANADIAN PATENT (12)**

(54) Petroleum Jelly with Alpha-Hydroxy Carboxylic Acids

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(57) 8 Claims

**Notice:** This application is as filed and may th refore contain an incomplete specification.



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**ABSTRACT OF THE DISCLOSURE**

A cosmetic composition is provided that includes a C<sub>2</sub>-C<sub>22</sub> α-hydroxy carboxylic acid or salt thereof dispersed within petroleum jelly with the aid of a phosphatide. Additional components may include a sterol and a C<sub>10</sub>-C<sub>22</sub> fatty acid. A method is also provided for treating skin to improve the functions of skin healing, moisturizing, anti-aging, anti-wrinkling and skin lightening by applying to the skin a composition of petroleum jelly with a small amount of a C<sub>2</sub>-C<sub>20</sub> alpha-hydroxy carboxylic acid or salt thereof in an anhydrous or relatively low water system.

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**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A cosmetic composition comprising:
  - (i) from 50% to 98% by weight of petroleum jelly;
  - (ii) from 0.01 to 20% by weight of a C<sub>2</sub>-C<sub>20</sub> α-hydroxy carboxylic acid or salt thereof; and
  - (iii) from 0.1 to 10% by weight of a phosphatide.
2. A cosmetic composition according to claim 1 further comprising from 0.1 to 20% by weight of a sterol.
3. A cosmetic composition according to claim 1 further comprising from 0.1 to 20% by weight of a C<sub>10</sub>-C<sub>22</sub> fatty acid.
4. A cosmetic composition according to claim 1 further comprising from 0.8 to 10% by weight of water.
5. A cosmetic composition according to claim 1 wherein the phosphatide is lecithin.
6. A cosmetic composition according to claim 1 where the phosphatide is present from 0.5 to 8% by weight.
7. Use of a cosmetic composition comprising from 50 to 98% by weight of petroleum jelly, from 0.01 to 20% by weight of a C<sub>2</sub>-C<sub>20</sub> alpha-hydroxycarboxylic acid or salt thereof, and from 0 to 15% by weight of water, for treating skin to improve a functional activity selected from skin

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healing, moisturizing, anti-aging, anti-wrinkling, skin ligthening and  
combinations thereof.

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8. A cosmetic composition as claimed in claim 1 and substantially as described herein.

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1           PETROLEUM JELLY WITH ALPHA-HYDROXY  
2           CARBOXYLIC ACIDS

3

4           BACKGROUND OF THE INVENTION

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6           Field of the Invention

7

8           The invention relates to cosmetic compositions whose major component is  
9           petroleum jelly incorporating  $\alpha$ -hydroxy carboxylic acids and salts thereof.

10

11           The Related Art

12

13           Petroleum jelly is one of the oldest skin treatment products still in commerce  
14           today. For over 100 years, the Chesebrough Company and its successors have  
15           sold the substance under the brand, Vaseline®. There is good reason for the  
16           longevity of this product. Its occlusive and healing properties render this product  
17           especially efficacious against dry and damaged skin.

18

19           Within recent years,  $\alpha$ -hydroxy carboxylic acids have gained prominence as  
20           one of the truly effective skin actives. Reports of these materials are found in U.S.  
21           Patent 4,021,572, U.S. Patent 4,234,599, U.S. Patent 4,105,782 and U.S. Patent  
22           4,105,783 listing Yu and Van Scott as inventors. Other properties of these  
23           substances include their action against age spots, wrinkles and other signs of  
24           aging. See U.S. Patent  
25           5,091,171 (Yu et al.) and U.S. Patent 4,424,234 (Alderson et al.).

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27

28           Delivery of  $\alpha$ -hydroxy carboxylic acids in a vehicle such as petroleum jelly  
29           appears to present potential for even higher levels of effectiveness than previously

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1 found with aqueous cream and lotion vehicles.  $\alpha$ -Hydroxy carboxylic acids and  
2 their salts are unfortunately not readily soluble or dispersible in petroleum jelly.  
3 Systems are required which can aid dispersion of these hydrophilic substances into  
4 petroleum jelly.

5

6 Accordingly, it is an object of the present invention to provide cosmetic  
7 compositions having  $\alpha$ -hydroxy carboxylic acids or salts thereof uniformly dispersed  
8 or solubilized within petroleum jelly.

9

10 Another object of the present invention is to provide cosmetic compositions  
11 with skin healing, moisturizing, anti-aging, anti-wrinkling, skin lightening and other  
12 improved functional activities.

13

14 These and other objects of the present invention will become more readily  
15 apparent from consideration of the following summary and detailed description.

16

### SUMMARY OF THE INVENTION

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18 A cosmetic composition is provided that includes:

19 (i) from 50% to 98% by weight of petroleum jelly;  
20 (ii) from 0.01 to 20% by weight of a C<sub>2</sub>-C<sub>20</sub>  $\alpha$ -hydroxy carboxylic acid or  
21 salt thereof; and  
22 (iii) from 0.1 to 10% by weight of a phosphatide.

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27 Also provided is a method for treating skin to improve a functional activity  
28 such as that selected from skin healing, moisturizing, anti-aging, anti-wrinkling, skin  
29 lightening and combinations thereof, by applying to the skin a cosmetic composition  
30 comprising from 50 to 98% by weight of petroleum jelly, from 0.01 to 20% by

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1 weight of a C<sub>2</sub>-C<sub>20</sub> alpha-hydroxycarboxylic acid or salt thereof, and from 0 to 15%  
2 by weight of water.

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4

5 **DETAILED DESCRIPTION OF THE INVENTION**

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7 Now it has been found that a cosmetic composition wherein petroleum jelly  
8 is the main component and vehicle can be formulated with the aid of a phosphatide  
9 to microdisperse therein a C<sub>2</sub>-C<sub>22</sub> α-hydroxy carboxylic acid or salt thereof.  
10 Enhanced dispersion can be achieved when the phosphatide is accompanied by  
11 other lipid components such as a fatty acid and a sterol. The lipid system prevents  
12 phase separation and maintains the cosmetic product in an extended state of  
13 stability.

14

15 Accordingly, a first essential element of the present invention is that of  
16 petroleum jelly. Amounts of this material may range from 50% to 98%, preferably  
17 from 60% to 95%, optimally from 75% to 90% by weight.

18

19 A second essential element of the present invention is that of a C<sub>2</sub>-C<sub>22</sub>  
20 α-hydroxy carboxylic acid or salt thereof. Illustrative of these substances are  
21 glycolic, lactic, malic, tartaric acids and mixtures thereof. Salts of these acids may  
22 be based upon cations such as alkali metal, alkaline earth metal, ammonium, and  
23 C<sub>2</sub>-C<sub>20</sub> alkanolammonium cations. Amounts of the α-hydroxy carboxylic acid or salt  
24 may range from 0.1 to 20%, preferably from 0.5 to 10%, optimally from 1 to about  
25 5% by weight.

26

27 A further essential element of the present invention is that of a phosphatide.  
28 Most preferred is lecithin. Amounts of this material may range from 0.1 to 10%,  
29 preferably from 0.5 to 8%, optimally from 2 to 5% by weight.

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1           Additional lipids may be included in compositions of the present invention.  
2       Particularly effective are C<sub>10</sub>-C<sub>22</sub> fatty acids. Suitable fatty acids include lauryl,  
3       myristyl, cetyl, palmityl, oleoyl, stearic, isostearic and behenyl acids. Amounts of  
4       this substance may range from 0.1 to 20%, preferably from 0.5 to 10%, optimally  
5       from 1% to 6% by weight.

6

7           Other particularly effective lipids are the sterols. Illustrative sterols are those  
8       selected from soy sterol, ergosterol, stigmasterol, cholesterol, sitosterol and  
9       combinations thereof. Amounts of this material may range from 0.1 to 20%,  
10      preferably from 0.5 to 10%, optimally from 1 to 5% by weight.

11

12          Although compositions according to the present invention may be  
13       anhydrous, they usually will contain water in amounts from 0 to 15%, preferably  
14       from 0.8 to 10%, optimally from 1 to 8%, especially from 4 to 6% by weight.

15

16          Beyond the aforementioned components, the present invention may also  
17       include other ingredients typically found in cosmetic formulations. Among these  
18       ingredients are emollients, humectants, thickeners, preservatives, fragrances and  
19       vitamins.

20

21          Emollients may be selected from materials such as C<sub>8</sub>-C<sub>30</sub> fatty alcohols,  
22       triglyceride oils, silicone oils and a variety of esters. Amounts of the emollients  
23       may range from 0.5 to 20%, preferably from 1 to 10%, optimally from 2 to 8% by  
24       weight. Illustrative emollients are stearyl alcohol, cetyl alcohol, isopropyl palmitate,  
25       isopropyl myristate, lanolin, sunflower oil, evening primrose oil, soybean oil,  
26       dimethicone, cyclomethicone, dimethicone copolyol and dimethyl polysiloxane.

27

28          Thickeners may be selected from such materials as cross-linked  
29       polyacrylates availabl under the Carbopol® trademark, celluloses such as sodium  
30       carboxymethylcellulose, hydroxyethylcellulose, hydroxypropylcellulose and methyl

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1 cellulose, and natural gums such as xanthan, carrageenan and pectin gums. Most  
2 preferred are the crosslinked polyacrylates, especially Carbopol 934® available from  
3 the B.F. Goodrich Company.

4

5 Powdered thickeners may be such materials as chalk, talc, Fullers earth,  
6 kaolin, starch, colloidal silica, smectites clays, montmorillonite clays and chemically  
7 modified magnesium aluminum silicates.

8

9 Among the preservatives useful are methyl paraben, propyl paraben, EDTA  
10 salts, potassium sorbate, potassium benzoate and DMDM hydantoin.

11

12 Cosmetic compositions of the present invention may also contain vitamin  
13 ingredients such as Vitamin A palmitate, Vitamin E acetate, Niacin, Vitamin C and  
14 combinations thereof.

15

16 Emulsifiers may also be useful for purposes of the present invention. These  
17 emulsifiers may be alkoxylated C<sub>8</sub>-C<sub>30</sub> fatty acids and fatty alcohols. Examples of  
18 such materials are polyoxyethylene (4) lauryl ether, polyoxyethylene (8)  
19 monostearate, polyoxyethylene (10) cetyl ether and polyoxyethylene (20) stearyl  
20 ether. A particularly preferred emulsifier is Myreth-3-Myristate (CTFA name)  
21 available commercially as Cetiol 1414-E®.

22

23 The following examples will more fully illustrate select embodiments of this  
24 invention. All parts, percentages and proportions referred to herein and in the  
25 appended claims are by weight of the total composition unless otherwise stated.

26

### EXAMPLE 1

27

28  
29 A series of experiments were conducted to evaluate compatibility of  
30 potassium lactate in petroleum jelly. Table I outlines formulations and phase

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1 stability results.

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TABLE I

3	COMPONENT	FORMULA (WT. %)									
		1	2	3	4	5	6	7	8	9	10
4	Petroleum Jelly	89.75	89.75	89.75	89.75	89.75	89.75	81.75	83.75	83.75	85.75
5	Potassium Lactate (66% Aqueous Solution)	8.25	8.25	8.25	0.25	8.25	8.25	8.25	8.25	8.25	8.25
6	Lecithin	2.00	—	—	—	—	—	4.00	4.00	4.00	—
7	Soy Sterol	—	2.00	—	—	—	—	4.00	4.00	—	4.00
8	Stearic Acid	—	2.00	—	2.00	—	—	2.00	—	—	2.00
9	Sunflower Seed Oil	—	2.00	2.00	—	—	—	—	—	—	—
10	Cholesterol	—	2.00	—	—	2.00	—	—	—	—	—
11	Sorbitan Monoleate	—	2.00	—	—	—	2.00	—	—	—	—
12	PHASE STABILITY	unstable	separation	unstable	unstable	unstable	stable	stable	stable	stable	unstable
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1        Based on the results in Table I, it appears that lecithin at levels of 4%  
 2        provides stability to the potassium lactate in petroleum jelly.

3

4                    **EXAMPLE 2**

5

6        The following formulas illustrate typical compositions according to the  
 7        present invention.

8

**TABLE II**

9	COMPONENT	FORMULA (WT. %)					
		13	14	15	16	17	18
10	Petroleum Jelly	50	95	98	75	85	85
11	Ammonium Glycolate	10	--	0.01	20	5	1
12	Glycolic Acid	10	3	--	--	--	--
13	Alpha-Hydroxycaprylic Acid	1	--	--	--	--	--
14	Lecithin	5	2	0.10	3	4	10
15	Cholesterol	5	--	0.10	--	--	1
16	Polyoxyethylene (20) Stearyl Ether	2	--	1.79	2	2	2
17	Water	7	--	--	--	4	1

19

20

21        The foregoing description and Examples illustrate selected embodiments of  
 22        the present invention. In light thereof, various modifications will be suggested to  
 23        one skilled in the art, all of which are within the spirit and purview of this invention.